Apache Newsletter

Issue 36 **July 2001**

In This Issue:

Disclaimer

The *Apache Newsletter* is prepared with the stated purpose of providing a means of disseminating information concerning the AH-64 series, as well as related issues—such as its fielding, supportability, maintainability, and other items of significant interest. The contents are non-directive in nature and are not, under any circumstances, to be construed as altering or superseding any official instructions, regulations, or technical publications.

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Comments and Suggestions

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PM Update

By COL Howard T. Bramlett

Digital Capstone Exercise I (DCX I) was an outstanding success! Even though my anxiety level was high, I still had an uncanny feeling that we would succeed. Why? As I have mentioned to you in previous newsletters, articles and presentations, the Apache Team has personnel at all levels and disciplines that are, bar none, the finest in today's Army. The entire Apache Team worked hard, and in many cases, did extraordinary things to ensure that LTC Danny Ball and the Officers and Soldiers of the 1-227th that had to fight and maintain the system were equipped with the best we could provide. All that, coupled with the outstanding training and execution of the tactics and techniques, proved that the Apache Longbow is an outstanding weapon system for our tactical commanders. It is frightening to imagine one being on the receiving end of such an awesome system. Significant improvements to the best attack helicopter in the world can and will continue to be accomplished.

So, what were the significant findings from DCX I? First, the availability rates were maintained well above standards. Aircraft were available for full mission requirements. This was due in large part to the outstanding efforts of the maintainers and the quick reaction of the supply system. Second, the battlefield interfaces for mission planning/execution, communications and situational awareness were proven. What we plan for our level 1 enhancements, starting with Lot 7 aircraft in the Multi-year II contract, will answer the DCX I requirements and move Apache Longbow onto the fully digitized battlefield. Because of the speed, maneuverability, and depths to which we will employ Army Aviation across the total battlespace, aviation digitization efforts have been somewhat slower in coming to fruition than for the ground maneuver elements. DCX I proved that digitization of ground and air elements is a significant advantage to the commanders, and must be accomplished. It also proved that situational awareness and situational understanding are vital to ongoing operations and success for all members of the combined arms team.

With those successes in mind, and the current digitization program for Apache Longbow, we look forward to an awesome capability for our commanders and operational users in the interim force. While we will continue to stress and fund all those things that I have discussed in the past such as R&S, Task Force Hawk, MTADS/PNVS and focused recapitalization, it is just plain exciting to ponder the future enhancements that will accentuate the Longbow Apache's fighting traits.

This newsletter will contain the usual updates and system descriptions which I consider very important, however, I wanted to veer off my usual path to give you a little flavor of what your heavy attack helicopter is accomplishing as it continues its evolution as the Army's finest combat maneuver element.

We are continuing to field the L-6's (Airframe/Powertrain Maintenance Trainer), L-7's (Multiplex, Avionics, Visionics, Weapons and Electrical System Trainer), and LCT's (Aircrew Training Device) at the schoolhouses and in units. The feedback that I have received thus far is nothing short of exceptional. I fully understand the delay in fielding of the devices and the adverse impacts that this has had on everyone, however, once we finally get them right and in the field, you will have the finest training system in the Army, if not the world, certainly world class. Since the last newsletter, we have fielded one more Longbow Apache battalion, 1-3 Attack Helicopter Battalion, for a total of three. The more we go down the fielding trail the better we get, and 1-3 was no exception. Congratulations and give 'em hell.

HEAVY ATTACK

Longbow Apache Update

By LTC Patrick J. Garman

Hello from the Longbow office. We have been extremely busy during the last quarter. Not only have we been moving out on finalizing the details of the MYII aircraft, R&S fixes and identifying the focused recap components, but we have been defending the program in the building. One of the analysis groups on the Army staff wanted our Apache/Longbow program funds. The staff work culminated in the VCSA reaffirming the need for Longbows and the MYII program. We are now fully focused on executing our program and supporting you in the field. All of our Battalions (BNs) have also been busy literally from shore to shining shore: 1-227th just returned from the National Training Center (NTC) after the successful completion of the Digital Capstone Exercise with the 4th ID; while operational control (OPCON) to 4th ID, 1-227th flew in excess of 1000 accident free hrs and logged more then 15000 accident free ground miles during the train up and actual exercise. All this was accomplished while maintaining over an 80% operational readiness (OR) rate on the 16 LOT IV Joint Variable Message Format (JVMF) equipped Longbows. 2-101 completed the first rotation of Longbows to Joint Readiness Training Center (JRTC) in February (rotation 01-04) where they employed Tactical Engagement Simulation System (TESS) and the first Army Aviation unit to integrate teaming the Longbow with a Hunter UAV during the rotation. While redeploying from JRTC, 2-101 sent a team to help in the 1-3 EXEVAL. 1-3 AVN has completed Unit Fielding Training Program (UFTP) and has redeployed back home to Hunter Army. 1-2 AVN has recently finished table III/IV gunnery flying 170 hours and maintaining a Mission Capable (MC) rate of 90%, has transitioned to the crew-training phase of UFTP and are, as I write this, firing tables VI/VII and VIII. 1-101 has turned all of their aircraft in to the reman line, is undergoing individual training, and will form up at Ft Hood next month. 6-6 has completed aircraft inspections, and has put everything in place to start the transport of their aircraft to the US. The Netherlands' deployment of 4 Longbows to Eritrea is ongoing.

As you are aware we are still operating under a number of active ASAMs:

Generator. The testing of the new Generator Control Unit (GCU) with in-flight under frequency protection has been completed. Final reports are in for review and we are moving out with procuring a rotable pool of GCUs to be able to upgrade a BN at a time. We have signed the contract to procure and stock the peculiar ground support equipment (PGSE). The design and testing of the new installation hardware: stub shaft and spline / polygon adapters are completed. The redesigned QAD is undergoing testing. We will put some hours on the whole system on ATTC's Longbow at Ft Rucker to validate our qualification testing, and then start the retrofit of the fielded units with 1-2 AVN prior to deployment to Korea.

Embedded Global Positioning Inertial System (EGI). We are looking at two issues related to EGIs: "hot" signals coming from the antenna, as well as the correct prioritization of the airspeed sensors. We are going to formally evaluate the impact of antenna gain settings. The test report for the qualification of a new flight management computer (FMC) software load is in for final review and should be approved for fielding soon. This load will set the default airspeed values to the pitot system rather than the inertial velocities. This will eliminate the reoccurrence of the PVD 131 stabilator rescheduling event.

M299 Hellfire Launchers. We are also operating under a shortage of M299 launchers. The PM ARM is working a parallel effort with both the Boeing and Lockheed power supply cards. Both cards are performing well in qualification testing, and the PM is on schedule to meet the August deliveries. As a note, do not hold on to failed launchers. Get them into Boeing for repair.

Hellfire Missiles. The Hellfire missile restriction will continue until the redesigned spacer is retrofitted to the Alliant Tech motors. The foam spacer will be replaced by a "spider" which will not be ejected during launch. The initial retrofit missiles will hit in FY03 and the whole retrofit will be completed in FY06.

We are also actively working many other issues to include the forced retrofit of the G05 Anti-Ice Start Bleed Valves (AISBVs). We have already distributed nearly 200 G05 bleed valves and will be completed with forced retrofit to the fleet within 10 months. The Gun Accuracy software fixes, to include the out front boresight fix, are also in final review and should be fielded with the new FMC software.

The Longbow and Apache are the only advanced aircraft meeting or exceeding the DA readiness rates. I know this is due to extraordinary efforts of all of the maintainers and log dogs out there. Well done.

Apache Modernization

By LTC Derek J. Paquette, PM, Mod

In the last issue, I talked about the Modernized TADS/PNVS. Lord knows we need it and we are on course to get it for you! I want to take this opportunity to bring you up to speed on some of the other things we are testing and intend to field or fix in the future.

The next MWO coming out (beginning Jul 01) is the Aerial Rocket Control System (ARCS) relay kit installation. This modification was briefed at the Maintenance Officers Conference in December. We had knowledge of several inadvertent rocket launches in the field. We had Boeing conduct switchology evaluations on the aircraft and in the lab and confirmed that an inadvertent rocket launch was possible if the aircraft Arm switch was in the ARMED position and the ARCS panel and station directors were powered on the ground by selecting GROUND OVERIDE, or at lift-off when power is restored to the system as the aircraft comes off the SQUAT switch. When power is applied, the ARCS panel initiates its internal Built-In-Test routine. During this "milli-second" routine, it was determined that with approximately one (1) in eighty (80) occasions the ARCS panel will put a derived trigger signal to one or more of the station directors, which in turn will fire a rocket. This is a very conditional state as it requires the aircraft to be in the ARM state and not in the SAFE mode. It was confirmed that when the aircraft was in the SAFE state, no rocket launch could occur.

The fix decided on was to remove the source of 28VDC power at the station director for approximately 10 seconds by use of a time delay relay. This is considered a hard-wired inhibit. The application of this relay modification is transparent to the aircrew and will not inhibit the mission as the rocket inventory takes approximately 7 seconds, then the weapon type has to be selected as well as the range, etc. The expected time to apply the MWO is 10 man hours. The relay will be located on a bracket in the eyebrow area.

The Fire Control Computer (FCC) upgrade was also discussed at the Maintenance Officers' Conference (MOC). The upgrade came about from an initiative of Task Force Hawk. The FCC, which contains all the rocket ballistic variables, is being modified to enable the AH-64A fleet to have a ballistic solution to fire flechette rockets. In addition, more than fifty (50) other software modifications are being applied, piggy backing on the opening, testing, and requalification of the FCC software for the flechette ballistics. These changes will mostly be transparent to the aircrew as they are geared toward making the FCC more robust and to clean up annoying anomalies. The MWO is to be available for application beginning in Jan 02. A Boeing team will change out all FCCs on a Battalion by Battalion basis. Coordination with each Battalion will be affected in advance by the Project Manager Office (PMO). The Boeing team will remove the existing FCC's and replace them and all spares with the upgraded FCCs. An acceptance test procedure (ATP) will be run on all removed and replaced FCCs. If any removed or spare FCC does not pass the acceptance test, the unit is to turn it in through normal channels for repair. The remove/replace/test MWO procedure is not expected to exceed 2-4 man-hours per aircraft.

The AN/ARC-220 High Frequency (HF) Radio has been through a myriad of developmental and operational tests. The AH-64A Apache HF program has been under the design-test-redesign-retest sequence since Task Force XXI was conducted. As you know, the Apache is a highly integrated air vehicle with many sensors, communication and navigation devices, which are all susceptible to HF energy. Reducing the susceptibility to the minimum acceptable levels has been a challenging feat. Nine (9) prototype AH-64As have been built and are undergoing a customer test by 1-211th Avn, UTNG. Upon test completion, a PEO decision will determine if we will enter full-scale production of the MWO. As of this writing the 1-211th has indicated there is value added by having the HF radio. If approved for production, the first HF radio kits are expected to be available by Jan 03. The MWO will be significant, currently consuming about 2 weeks per aircraft with the prototype systems.

Other:
As many of you know, we have been modifying the tail boom with an Abbreviated MWO (AMWO) resulting from engineering change 1315. Currently, we have three sites operational – Germany, Ft Bragg and Williams Gateway Facility (WGA) near the Mesa, AZ plant. We will conclude operations in Germany and at Fort Bragg this year. All remaining installations will be done at WGA (and possibly Korea depending on timing of Longbow inductions). Currently have contractual commitments for approximately 2 aircraft per month at WGA through Jan 04. We are planning to install five (5) additional Reliability & Sustainment fixes as a block modification at WGA to aircraft that will remain in the post Longbow production 241 AH-64A model fleet. These fixes will improve the reliability, safety,

and sustainment of the AH-64 fleet. The block modifications will consist of applying the Main Landing Gear Spider Mounts (if needed), remove and replace the engine cooling louvers with the latest configuration, reworking the Fuselage Station 176 frame by installing a doubler and replacing 16 rivets with Visuloc fasteners, installing baffles in the fuel tanks to prevent engine in-flight power loss, and installing a new poppet valve in the aft fuel tank to prevent fuel vapors in the cockpit. These modifications and others are already being applied to all Apaches going through the Remanufacturing line finishing as an AH-64D longbow. The completion of the block mod will extend your aircraft at WGA for approximately two (2) weeks.

HEAVY ATTACK!!

Fire Control Radar Product Office Quarterly Update

By LTC Rick Pennycuick

The Fire Control Radar (FCR) and Apache Training Device Teams continue to produce for the "Longbow Apache" community. The Fire Control Radar/Radar Frequency Interferometer (FCR/RFI) delivery remains ahead of contract schedule in support of the AH-64D Apache Longbow remanufacturing line. In addition to providing the heart of the Apache Longbow, plans are being developed to minimize radar system technological obsolescence while maintaining our combat overmatch capabilities for the Apache Longbow Weapon System. We are participating in these efforts in a coordinated manner via the Apache Longbow Modernization Integrated Strategy Team partnering with the Longbow PM and all our industry partners. We are focusing on the future of the FCR/RFI while continuing to provide the highest level of support to the present users of the FCR/RFI - the fielded AH-64D Longbow Attack Helicopter Battalions.

Fire Control Radar (FCR) (AN/APG 78) and Radar Frequency Interferometer (RFI) (AN/APR 48A) Status

The Longbow FCR and RFI systems are currently fielded everywhere the AH-64D Apache Longbow is fielded: Ft. Rucker in support of the AH-64D Longbow Aircraft Qualification training base; Ft. Hood 21st Cavalry Brigade in support of the Apache Longbow Unit Fielding & Training Plan; and to tactical units assigned to Ft. Hood (1-227th), Ft. Campbell (2-101st), Ft. Stewart (1-3rd), and Korea (1-2nd) scheduled for August 2001.

To date, 90 FCRs have been manufactured and delivered to the government on or ahead of contract schedule. Recent activities include:

- Participation in DCX at NTC Ft. Irwin
- Incorporating multiple no fire zones into the FCR
- Re-evaluation of the FCR maintenance concept (trade studies to identify and implement cost saving maintenance procedures for Apache Longbow units)
- Developing RFI User Data Module reprogrammability to support regional requirements
- Fielding replaceable radomes for the RFI (to include procedures)
- Evaluating RFI passive ranging capability for possible incorporation into Multi-Year II Longbow line
- Evaluating Technological Obsolescence avoidance measures and laying ground work for possible Horizontal Technology Integration opportunities/benefits between Longbow and Comanche radars

Apache Training Devices

The Longbow Crew Trainer continues to make Army Aviation history!
The Apache Training Device Team's Longbow Crew Trainer (LCT) LOT 4 integration efforts of the three USAAVNC LCTs was a hard-fought success, with the LCTs being used for the first-ever full-up AH-64D Aircrew Qualification Course (AQC) Class 01-07 on 17 APR 01. There are now 5 US Army LCTs that are supporting AH-64D aircrew training. Three LCTs are in place and supporting AH-64D Aircrew Qualification Course (AQC) Training at Fort Rucker, one LCT is operational at Fort Hood, Texas in support of III Corps units and 21st Cavalry Brigade's Unit Fielding & Training Plan, and one LCT is operational at Fort Campbell, Kentucky in support of the 101st.

LCT availability rates remain in excess of 95% as the LCTs continue to use scripted training vignettes in order to maintain the stability of the devices as work continues towards specification compliance. Recent aviator comments

relayed by LTC Ingalls', 1-2 Attack Battalion Commander, include: "Long overdue," "Wish we had this a year ago," and "What a great training tool." Of special interest to the field is that the LCT in the LOT 4 configuration is capable of supporting Gunnery Tables III & IV without the use of Gunnery Conduct of Fire Trainer (GCOFT). LOT 4 integration of the FT. Campbell and FT. Hood LCTs is also complete and training of AH-64D aircrews with the LOT 4 upgrade is underway.

In the Maintenance Training Devices, the Apache Program Office, working with Boeing Helicopter Systems, has accepted seven (7) Multiplex Avionics Visionics Weapons and Electrical System Trainers - L7 (MAVWEST-L7s) and seven (7) Airframe, Engine, Drivetrain, and System Trainers - L6 (AEDST-L6s). All devices except one have been delivered to USAALS, Ft. Eustis. The remaining device remains in Mesa for integration of LOT 4 configuration changes and an additional twenty-eight (28) Fault Isolation Procedures (FIPs). The remaining L7s and L6s will be upgraded at Ft. Eustis this year following LOT 4 integration. The L7s support 68X/Y maintainer training which began 7 August 2000 and the L6s support 67R maintainer training which began 7 May 2000. The MYII purchase of three (3) L7s and five (5) L6s training devices is well into production. Delivery of the L6s and one (1) L7 begins early CY02.

In addition to the L7s and L6s, the Apache Project Office, working with the Raytheon Company, is initially building one (1) Flight Control Part Task Trainer (PTT) and one (1) Tail Rotor PTT. These devices are designed to augment the other devices in training the 67R students. Just recently installed at Ft. Eustis are Classroom 2000 Systems that consist of individual student computers linked together with a Link Net System, projector and SMART board. The 12 systems installed bring the number of classrooms facilitated by the Apache Project Office to 18. The Classroom 2000 concept facilitates both individual self-paced or group instruction. It uses the Interactive Multi-media Instruction (IMI) lesson plans to instruct the students on the basic systems before hands-on training is done on the maintenance devices.

Despite the success of the LCT LOT 4 integration, there is still work to do to bring it into specification compliance. The government/industry team is committed to the successful completion of the contracted software baseline beginning with LCT # 6, which is also expected to include the three required geographic databases is its final baseline load. AAH PMO is finalizing the acquisition and development strategy for two additional database suits for EUSA and USAREUR. The PM NET Team continues to provide a graduate level of training for AH-64D Instructor Pilots on the LCT Instructor Operator Station (IOS); as of 17 APR 01, they have trained 55 operators, and will have trained an additional 14 operators by the end of MAY 01.
The Longbow Crew Training System (LCTS) delivery is now on the horizon, and although the functionality of the After-Action Review Station has been successfully demonstrated and manufacturing is completed on four of the six Tactical Player Stations (TPS), there is much integration work ahead.

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Longbow Fielding Update

By LTC Al Peterson

Greetings from the Apache Material Fielding Team (MFT) at Sunny Fort Hood, Texas! The MFT is the Apache PM's representative to the 21st Cavalry brigade and the units going through the UFTP and is here at Fort Hood so we can provide on-site assistance to units under going the fielding process.

We recently said goodbye to LTC Mark Jones and the outstanding soldiers of 1-3 Aviation as they headed home after an extremely successful UFTP. Congratulations and job "well done" to all in 1-3; they have raised the bar several notches for the remaining Longbow units to be fielded. Speaking of the other Longbow units; LTC Steve Ingalls and 1-2 Avn are now fully immersed in the UFTP and all indications are that they are excelling as they move towards an early August graduation. They certainly kicked butt on their first gunnery! 1-101 Avn starts arriving in June followed by 6-6 Cav in October. Its getting busy which is great from a programmatic standpoint.

When your unit arrives at Fort Hood you should expect to see members of the MFT out and about visiting your Commander, staff, officers, and soldiers both at the Hanger and in the field. Besides the MFT visiting the units, one of the things we like to do early in the UFTP is to get the incoming commanders and key maintainers to come down to our office and discuss some fielding lessons learned that can help smooth the fielding process. We look forward to meeting and working with you all.

On that note, I'd like to introduce the MFT staff (the first five of which are all Master Army Aviators with a combined total of nearly 30,000 flight hours) and provide you with telephone numbers for both the government and contractor folks that reside in our building (Building 7052 at Hood AAF). I'll start with myself:

LTC Allen (AL) L. Peterson – An experimental test pilot by trade my most recent assignments were testing aircraft for the Army at Fort Eustis and Edwards Air Force Base and for the British at Boscombe Down in the United Kingdom. Prior to that, I spent a few years in the 4th and 6th Cavalry including commanding an Apache troop in 4/6 Cav. Retirement is looming on the horizon, but until then, UFTP units will be seeing quite a bit of me around the office, hangers, and ranges.

CW5 Bob Lucky – Bob is an AH-64D Longbow maintenance test pilot and IP coming to the MFT from Fort Rucker. Bob has worked on the Apache for quite a few years and has spent the last few focusing on getting the Longbow delivered to Mother Rucker. A native Alabamian, Bob is settling in well to central Texas and is ready to assist units coming through the UFTP as both an MP and ME (if we can just get him to trade that Mini-Van in for a Pick-up). Commanders and maintainers, don't be shy about asking Bob to help out getting your MPs up and running or assisting with test flights and trouble-shooting.

Snuff Thompson – Snuff is officially assigned to the MFT as a civil service "logistics management specialist", however you can't erase a career of getting it done as an Apache Maintenance Officer simply with a job title. Units going through the UFTP will find Snuff "out and about" making sure that the maintainers are "good to hook" as he likes to say. Snuff is ready, willing, and able to do whatever it takes to help the UFTP units succeed on the maintenance side of the house.

Joe Privitt – Joe is a contractor supporting the MFT primarily working with the units going through the UFTP. Joe is a retired CW5 and spent many years working on the original A Model Apache fielding team. Joe knows Apache fielding and Fort Hood, and stands ready to assist UFTP units anywhere they need it. He may look grumpy but he's really a nice guy so don't be afraid to ask him for some help if you need it.

Harry Shively – Harry is also a contractor supporting the fielding team but his focus is split between supporting the International Apache Office, the Royal Netherlands Air Force Longbow Apache Fielding, and the Apache PMs Logistics Division. Harry is a retired Aviation LTC with a lot of Fort Hood experience. In his spare time Harry also performs facility coordination duties for the Fort Hood Longbow Crew Trainer facility.

SFC Hector Cruz – SFC Cruz is the supply guru for the MFT and also the MFT NCOIC. He's been working in the supply business for 19 years and still enjoys it (go figure). SFC Cruz was one of the original members of the MFT coming over from 1st Cav in 1998. All the equipment that the units going through the UFTP receive from the PM will be coordinated by SFC Cruz. Equipment or supply issues SFC Cruz is the one to call.

SSG Phil Parker - SSG Parker is an experienced 68Y also coming to the MFT from the 1st Cav. SSG Parker has been working on the Longbow since receiving his training at the Boeing Plant at Mesa. Units going through the UFTP should anticipate seeing SSG Parker participating in and monitoring training and helping out the maintainers however he can. Phil is an excellent asset to call upon when the unit starts tearing apart their 30mm guns for the first time.

Thomasene Williams – Ms. Williams is the secretary for the MFT and is the one person that can almost always be reached in the office. Tom, as she prefers to be called, can usually track down the rest of us and is always available to assist the UFTP units.

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21st Cavalry Brigade Update

by LTC Doug Gabam

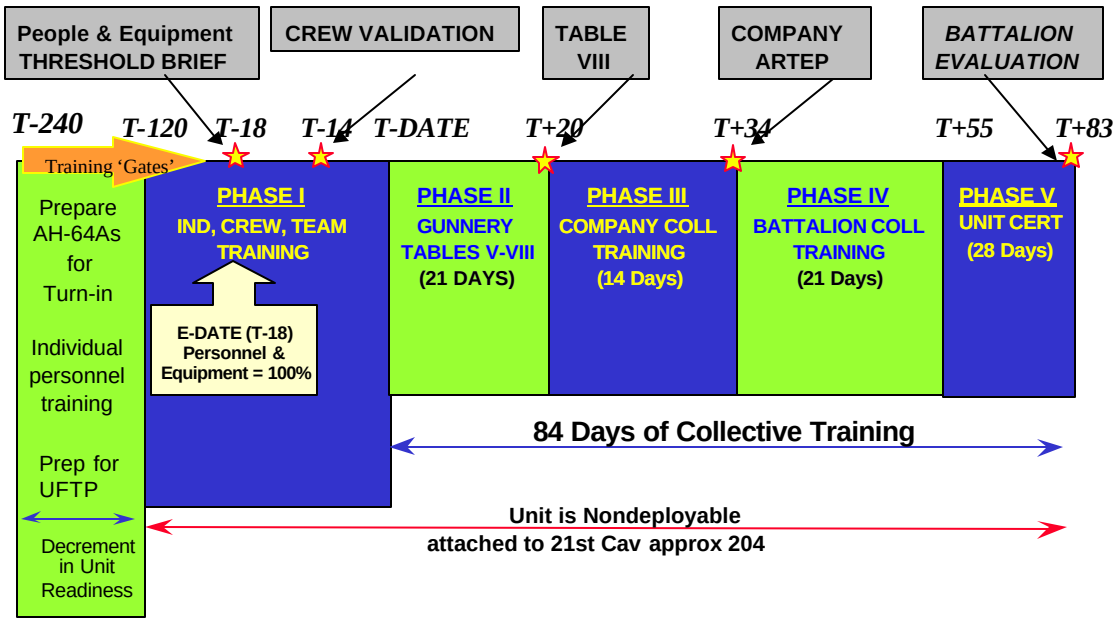
On behalf of the Brigade Commander, COL Doug Eller, I would like to say, "Hello from Central Texas, home of the 21st Cavalry Brigade." Some of you involved with this great aircraft understand our mission, and probably have dealt with our Brigade in various capacities. However, there are some agencies and individuals in our Apache community that may not realize our task and purpose. Bottom line, all the great work you do involving this aircraft culminates in a rigorous 6.5 month Unit Fielding Training Program (UFTP). The end state is a combat ready, 24 aircraft Apache Longbow unit deployed to its specified theater of operations.

Here is our mission statement from HQDA: *The 21st Cavalry Brigade, as directed by ODCSOPS, receives, equips, fields, trains, and evaluates all modernized attack and cavalry aviation units using a standard model. Upon certification of the units as C-1, the Brigade ensures the unit is deployed to its parent organization.*

Some of our specified tasks are:

- Execute the approved Apache Longbow Fielding plan.
- With ODCSOPS concurrence, conduct Foreign Military Sales (FMS) training as coordinated with TRADOC Security Assistance Field Activity (SAFTA).
- Conduct other combat aviation related activities as directed by ODCSOPS.

Here is a graphic model of the 5-phased UFTP. The planning and coordination begins 240 days prior to the unit arriving at Ft Hood, TX. T-Date is defined as when the unit starts collective training, and E-Date is when the unit should be at it's authorized strength for personnel and equipment. Gates for each phase are located at the top of the chart:



As of 1 June 01, the brigade has successfully graduated three battalions: 1-227 AVN (Nov 98), 2-101 AVN (Oct 99), and most recently 1-3 AVN (March 01). Our congratulations to the Commander of 1-3 AVN, LTC Mark Jones and his "Vipers" for an extremely successful UFTP! Currently, LTC Steve Ingalls and his "Gunfighters" completed Table VIII gunnery and will begin Company Collective training this month. The Gunfighters graduate 2 August 01. LTC Mike Clawson, Commander of 1-101, "Expect No Mercy" will begin Phase 1 of the program 4 June 01. Looking down the road, we will welcome 6-6 CAV (11th AVN Bde, Germany) in Oct 01, 1-4 AVN (4ID) in April 02, and 3-6 CAV (6th Cav Bde, Korea) in Aug 02.

We also take great pride in our FMS training program. We have conducted training for the Royal Netherlands Air Force since Jun 96. We recently graduated the fourth Dutch AH-64D flight (roughly equivalent to a company of pilots), and will begin training the fifth (of six scheduled) flights later this month. In addition, we conducted a tailored peacekeeping training program for nine Dutch pilots who recently deployed their aircraft to Africa under the auspices of a UN mission. The first contingency mission for the AH-64D involved Dutch aircraft! Dutch sustainment training is currently scheduled through FY 02. We are preparing to conduct similar training for another FMS customer (8 aircraft) in the summer of 03.

We are fortunate to possess some unique training multipliers here in Central Texas that greatly enhance our ability to successfully conduct the UFTP. Our Tactical Engagement Simulation System (TESS) provides a mobile instrumentation system, with C2 and AAR playback capability and an eye safe laser for force-on-force operations. A "live" OPFOR, consisting of both an Aircraft Survivability Trainer IV battery (SA-8, 2S6/ZSU-23-4, and SA-9) and a 30-vehicle VISMOD fleet, help the unit focus training efforts on combat tasks. The Apache Ground Station enables us to conduct a Table VIII "digital gunnery", – by providing the capability for master gunners to emulate an FCR aircraft sending an FCR target report and other digital traffic to Longbow aircraft.

The Longbow Crew Trainer arrived at Ft Hood December 00. We have been hard at work integrating this valuable device into our training program. In May 01 it was upgraded to LOT 4. We have developed and conducted crew scenarios to assist the commander in validating his crews before Table VIII gunnery. We immediately observed significant improvement in crew coordination, and switchology competence. The only Longbow Crew Trainer System (LCTS) in the Army is projected to arrive at Ft Hood December 01. This will be a great collective training tool for the brigade. Finally, our Western Training Area (46,000 square kilometers) allows us to conduct various tactical missions over realistic doctrinal distances.

We at the 21st Cavalry Brigade are proud of where we've been and look forward to the future continuing to serve soldiers as an integral part of the entire Apache team.

AH-64A Induction into the AH-64D Longbow Program

A milestone has been met in the Apache Longbow Program. With the induction of the last aircraft from the 1-101 Aviation Regiment, Fort Campbell, Kentucky, the Multi-year one induction requirement of 232 aircraft has been met and the first three aircraft for Multi-year two have been inducted. New contract requirements for MYII will allow the PM AAH to relieve the units of charges for minor repairs on aircraft being inducted. The strict TBO requirements will remain the same (300 hours). These new requirements will be reflected in the 4th edition of the Memorandum of Agreement (MOA) for processing the AH-64A into the AH-64D Apache Longbow program. Other induction changes (see paragraph on the "oldest first" induction plans) will also be included in this 4th edition of the MOA.

We completed our pre-induction inspection of the 6-6 Cavalry in Germany and on 8 May returned to Coleman Barracks, Germany to do the final inspections and load the unit's equipment on a boat for transport to the Port of Charleston, SC. 30 AH-64As will be destined for 3 different locations from the Port of Charleston. 18 will go to the Boeing Mesa plant, for Longbow, 2 will go to CCAD for damage repair, and 10 will be reassembled and flown to Ft. Rucker, Alabama to fill our "Refresh the Fleet" objectives this year. This is our 2nd OCONUS move and lessons learned from the first move have been incorporated to streamline the operation. The aircraft will be configured for line haul (similar to a maximum density load configuration in the "S" manual) in Germany with containerization of the all components requiring removal (i.e. vertical fin, turrets, horizontal stabilators and all components associated with their removal). The wings will be stowed on the aircraft. This will allow the aircraft to be removed from the boat and put directly on the air-ride trailers for transport, greatly reducing the time on station at the Port.

Soon after the boat is unloaded in Charleston, we will start the operation to return the 1-2 Aviation regiment to Korea as the first OCONUS fielding of the AH-64D. Second Destination and Transportation funding for the re-deployment of the 1-2 Aviation has been approved by DA DCSLOG and planning for the move back to Korea is in full swing.

Next unit in the queue for induction is the 1-4 Aviation Regiment, Ft. Hood, Texas. Our initial unit brief for this unit will be in July. The 1-4 Aviation will begin turning aircraft in for Longbow induction in November 2001.

Plans are being finalized to induct the "oldest first" AH-64As and use the newer AH-64As to refresh the National Guard and Training fleet. This will require that units formerly designated for Longbow Induction prepare their aircraft for a non-combat transfer per TM 1-1500-328-23. The only exception to TM 1-1500-328-23 is the losing unit's sets of aircraft will require an "average" of 125 hours until the next phase. This will allow the gaining unit to continue the maintenance flow required for a successful flying hour program. In turn, the units that are receiving these newer AH-64As will induct their older aircraft into the Longbow Program. Our goal with the "oldest first" scenario is to eliminate aircraft that are AH-64A Production Vehicle 530 (88-0200) and earlier from the fleet. This will accomplish three things: elimination of Kapton wiring, elimination of non-BUCS, and elimination of non-EGI aircraft. This entire scenario is dependent on approval from the DA-DCSPRO and DA DCSOPS. Until that approval is officially announced, we will continue with the current Induction/Fielding schedule.

As we continue into the Multi-year II inductions, units will see a new face from the PM AAH. I would like to welcome Mr. Bill Siegman (many of you know Bill from the 21st Cav) on board as part of the induction team. Bill has been heavily involved in the Longbow Program from the beginning as the production control NCO at 21st Cav. His technical expertise on both the AH-64A and the AH-64D will greatly enhance the induction process.

Point of Contact:

Harold G. "Bud" Sowers, DSN 897-4237 or Commercial 256-313-4237, bud.sowers@peoavn.redstone.army.mil.

O&S Cost Reduction

The Apache Operating and Support (O&S) Cost Reduction Integrated Process Team (IPT) investigates and examines all elements of Apache O&S costs in order to identify, prioritize, fund, and implement cost-saving measures. To date, the various cost reduction programs have resulted not only in cost savings of $999M, but also in a more reliable, maintainable, and supportable aircraft as well.

The Apache O&S Cost Reduction IPT recently held its semi-annual Conference on 25-26 April 2001. Approximately 25 representatives from the PM, AMCOM, CECOM, TACOM-RI, Boeing, Lockheed-Martin, and TSM Longbow, as well as maintenance officers from USAALS, USAAVNC, and field units, were in attendance. The minutes from the conference will be available for download on the Apache website in June. If you are unable to download the minutes due to automation limitations, just send me an e-mail at the address below and I'll send you a CD.

The December 2000 edition of Flightfax, published information for submitting 2028s and QDRs on-line. In case you missed it, the web address is http://aeps.ria.army.mil. This site allows you to submit only; you cannot receive results of past submissions. A login id and password are required. For more information on QDR submissions, contact:

- AMCOM - cfo@redstone.army.mil, or DSN 788-6665, Commercial (256) 842-6665.
- CECOM - cfo@cecom2.monmouth.army.mil, or DSN 992-3808
- TACOM-ACALA - qawqdrs@ria-emh2.army.mil, or DSN 793-6764

For more information on 2028 submissions, contact 2028@redstone.army.mil, DSN 746-7758, Commercial (256) 876-7758.

The PM office is currently working on training CDs for AH-64A maintenance personnel. The following is a list of CDs under development and statuses:

CD No.	LESSON	STATUS
CD 46-02	Torquing Techniques	Final
CD 46-03	Measuring Tools and Techniques	Final
CD 46-04	AH-64A Connector Maintenance	Final
CD 46-05	AH-64A Electrical Systems	Final
CD 46-06	AH-64A 10 Hour/14 Day Inspection	Final
CD 46-07	AH-64A Heading Attitude Reference System (HARS)	Preliminary Pending Review
CD 46-08	AH-64A Multiplex (MUX) System	Preliminary Pending Review
CD 46-09	AH-64A Auxiliary Power Unit (APU)	Preliminary Pending Review
CD 46-10	AH-64A Identification Friend or Foe (IFF) System	Preliminary Pending Review
CD 46-11	AH-64A Automatic Direction Finder (ADF)	Preliminary Pending Review
CD 46-12	AH-64A Target Acquisition and Designation Sight (TADS)	Preliminary Pending Review
CD 46-13	AH-64A Fuel System	Preliminary Pending Review
CD 46-14	AH-64A Doppler Navigation System (DNS)	Preliminary Pending Review
CD 46-15	AH-64A Flight Controls System	Final Review
CD 46-16	AH-64A Digital Automatic Stabilization Equipment/Back-Up System (DASE/BUCS)	Final Review
CD 46-17	AH-64A Aircraft Survivability Equipment (ASE)	Preliminary Pending Review
CD 46-18	AH-64A Stabilator Control System	Preliminary Pending Review
CD 46-19	AH-64A Point Target Weapon System (PTWS)	Preliminary Pending Review
CD 46-20	AH-64A Pilot Night Vision Sensor (PNVS) Assembly	Preliminary Pending Review
CD 46-21	AH-64A Corrosion Control	Preliminary Pending Review
CD 46-40	AH-64A Hydraulic System	Preliminary Pending Review
CD 46-41	AH-64A Power Plant	Preliminary Pending Review
CD 46-42	AH-64A Main Rotor Blade Assembly	Preliminary Pending Review
CD 46-43	AH-64A Landing Gear System	Preliminary Pending Review
CD 46-44	AH-64A UHF/VHF Avionics	Preliminary Pending Review
CD 46-45	AH-64A Embedded Global Positioning Inertial (EGI) System	Preliminary Pending Review

All CDs are due to be completed by October 2001 and distributed at the next Maintenance Officers Conference. For information on ordering these CDs (or any of the Aircrew CDs distributed at the December 2000 MOC), please contact one of the following POCs:

William Wadlington, Apache PM Office, DSN 897-4068, or Commercial (256) 313-4068, william.wadlington@peoavn.redstone.army.mil

Steve Tisdale, USAALS, DSN 927-7062, or Commercial (757) 878-7062, ext. 326, steve.tisdale@eustis.army.mil

Please remember that the Apache troubleshooting page is running and is located on the Apache website at www.peoavn.redstone.mil. Troubleshooting tips for both the AH-64A and D model aircraft may be sent to the POC below.

Point of Contact:

Chuck Wright, DSN 897-4031, Commercial (256) 313-4031, charles.wright@peoavn.redstone.army.mil.

Apache Readiness Reporting

Many changes in the Readiness Reporting requirements on the units have been made recently and it has been discovered there are indeed some glitches. One that has been found is the "Commander's Comments" from the reverse side of DA Form 1352 is not being received or captured. During the recent December 2000 Apache Maintenance Officer Conference, numerous unit representatives responded that no one was checking the statements (the ones that were being submitted) concerning their issues / problems. Upon investigation it was found that not all units are reporting these comments IAW AR 700-138 and the ones that were, were not being distributed for Apache Project Manager Office (PMO) review. Without this input, the Apache PMO lacks the true visibility to analyze the various impactors that are affecting the readiness of the entire Apache fleet.

An effort is being undertaken immediately to obtain these true concerns / issues of Apache units by establishing a repository that units can send these "Commander's Comments" via email for Project Manager's Office level visibility. It is requested that all "Commander Comments" are submitted in either .DOC or .TXT format and emailed to apacherates@peoavn.redstone.army.mil.

This request does not replace the current AR 700-138 reporting requirements for the units. This effort is intended to supplement AR 700-138 and provide the proper visibility.

Point of Contact:

Perry Hubbert, SAIC Inc., Readiness / Sustainment Branch, Apache Attack Helicopter PMO, DSN: 897-4089, Commercial (256) 313-4089, perry.hubbert@peoavn.redstone.army.mil.

Air Data System Alignment Kit (ADSAK)

In error, the ADSAK is being turned in with the Captive Boresight Harmonization Kits (CBHK). The ADSAK NSN 4920-01-329-6825, P/N 2327000 and LIN Number S13794 is a separate piece of Peculiar Ground Support Equipment (PGSE) with a calibration cycle of 12 months from first use.

The CBHK has a calibration cycle of 15 months from first use. The CBHK NSN is 4920-01-412-4978, P/N 7-362300003-601 and LIN is F63271.

The problem with units turning in the ADSAK in error with the CBHK, thinking its part of the CBHK, is the ADSAK has not cleared off the property books and the units are still accountable for that item and it is problematic for the units and is difficult for the item manager to correct.

Any questions concerning turn-in of these items should be forwarded to Kathlyn Dulaney, DSN 897-1423, Commercial (256) 313-1423, kathlyn.dulaney@redstone.army.mil. Technical/maintenance questions should be forwarded to Ed Daw, DSN 897-1422 or Commercial (256) 313-1422, edward.daw@redstone.army.mil.

Point of Contact:

Ed Daw, DSN 897-1422 or Commercial (256) 313-1422, edward.daw@redstone.army.mil

Turn-In Unserviceable M43 Masks

The Soldier and Biological Chemical Command (SBCCOM) requests expedited turn-in of all the unserviceable M43 Type I Masks from Apache units.

SBCCOM presently has an M43 Type I Mask repair program at Pine Bluff Arsenal, AR. This program has been suspended for lack of sufficient field returns. An unserviceable mask in your possession may not offer the protection level the mask was designed for. Turn them in and requisition replacement masks. The masks are a line item in your TDA / MTOE and are free issue.

To turn in M43 Type I masks, initiate a "Report of Excess" (FTE) document IAW AR 725-50, Chapter 7. Remove the canisters and battery and dispose as hazardous waste. Send the rest of any unserviceable M43 Type I Masks using an FTR document to ship to Pine Bluff Arsenal, Pine Bluff, AR (RIC: AD1 and DODAAC: W41CE8).

The following Maintenance, Logistical, and Supply Advisory Messages were issued concerning the M43 Type I Mask system:

- SBCCOM MAM 00-07, Sep 00: Status of M48 Apache Aviator Mask. Requesting the relevant MACOMs assess and report current readiness of the M43 Type I Mask inventory.
- SBCCOM MAM 00-04, Sep 00: Updates to the M43 CB Aircraft Mask TM.
- SBCCOM LAM 00-04, Jun 00: Expedite Turn-in of Unserviceable M43 Type I Masks from Apache Units.
- SBCCOM SAM 00-01 & 00-01A, Mar 00: Request Expedite Turn-Ins of M43 Type I CB Masks to PBA.
- CECOM MAM 00-03, Mar 00: Cool Temps Storage for BA-5093/U Battery used on the M43 CB Aircraft Mask.
- Copies of these messages can be found on the U.S. Army Materiel Command, Army Electronic Product Support website, http://aeps.ria.army.mil.

Remember, the M43 Type I Mask is for AH-64 Apache pilots only. SBCCOM has conducted some limited surveillance of the M43 Mask and found many Type I masks in non-Apache units. We also found Apache units with M43 Type II masks. Ask your Division Chemical Officer to conduct surveillance of M43 assets and then cross level any M43 Type I Masks found in non-Apache units to the pilots who need them.

The Item Manager for the M43 Mask is Frank Fuoto, SBCCOM (RI), AMSSB-RSO-IPM(RI), DSN 793-4285.

HARS Turn-In

As everyone is probably aware of, we have been exchanging the non –17 HARS for the –17 HARS at no cost to the unit. The upgrade contract with the HARS prime is nearing completion. Please look once again at the HARS systems in your possession and turn in your non –17 HARS. The upgrade will be at no cost to you at this time. To coordinate the turn in of non –17 HARS, talk to your local Boeing CSFR or call Randy Lea at (480) 891-6722, or Scott Tisdale at DSN 897-4032, Commercial (256) 313-4032.

EGI Warranty Will Expire Soon

The warranty for the Embedded Global Positioning Inertial System (EGI), CN-1689(V)1/ASN, NSN 6605-01-421-0076, Part Number: 34200650-300J installed on Apache aircraft, will expire on 22 October 2001. The EGIs have been under warranty for a period of five (5) years starting 23 October 1996. Continue to address the EGI as a warranted item until that time. Please continue to use the Honeywell Customer Support Center technician's Warranty Hotline at 1-888-INSGPS1 (1-888-467-4771), Commercial (727) 539-4222, cust_support@stpete.honeywell.com to verify a failure or for all related questions. After 22 Oct 01 the EGI will be out of warranty and the contractor will stop accepting any unserviceable EGIs from the field.

After 22 Oct 01 turn in your EGIs through the normal Army supply channels for credit and submit a requisition for a replacement.

REMEMBER: DO NOT SEND ANY EGIs TO THE CONTRACTOR AFTER 22 OCT 01, BECAUSE YOU MAY NOT GET THEM BACK.

The item manager for the EGI is Anthony Santarsiero, AMSEL-LC-CCS-N-AN, DSN 992-1192, anthony.santarsiero@mail1.army.monmouth.mil.

Please continue to keep Scott Tisdale, DSN 897-4032, scott.tisdale@peoavn.redstone.army.mil informed of all warranty returns up to October 22nd to ensure you receive your replacement EGI.

GPS Cryptovariable Keys

Just wanted to remind everyone that last year's move by the government turning the Selective Availability (SA) off, does not mean you do not need GUVs (cryptovariable keys). Please continue to load keys for optimum GPS and aircraft performance. The following are reasons keys are needed:

1. Prevents Global Positioning System (GPS) present position jumps and invalid velocity data by preventing 'side lobe' acquisition of the GPS signal.

2. Provides accurate hover velocity. The EGI inertial system will use both range and range rate data from the GPS when the GPS is keyed. When the GPS is not keyed the EGI inertial system uses GPS range data only. The net effect is that the EGI inertial velocity drift characteristic (hover velocity accuracy) is substantially improved when the GPS is keyed.

3. Provides improved accuracy over C/A code by correcting for ionospheric errors. Keyed receivers tracking P(Y) code can determine ionospheric errors by tracking both L1 and L2 channels; C/A code is only carried on L1 channel.

4. Minimizes the possibility of jamming by allowing only keyed GPS receivers to track P or Y code, which is at a higher frequency (10 MHz). The P and Y code is on the L2 frequency which is not tracked without keys.

5. Provides anti-spoofing protection by allowing only keyed GPS receivers to track encrypted Y-code.

6. Government can still turn the SA back on as needed.

Bottom Line: Load your keys!

Point of Contact:

Scott Tisdale, AEPCO
DSN 897-4032, or Commercial (256) 313-4032, Scott.tisdale@peoavn.redstone.army.mil.

Gearbox Bearing Spacers

The supply system currently has a mix of laminated and solid Gearbox Bearing Spacers, P/N 7-113300148, NSN 1615-01-170-2883. You may receive either item from the supply system. DO NOT install the solid shim without first having it ground down to the dimension required by the TM Installation Task.

Ft. Rucker has received one AH-64D aircraft with an improperly shimmed gearbox, the shim was installed as manufactured. Do not just install the solid shim in any gearbox just because you received a solid shim and do not have the capability to grind it to the required dimension.

Point of Contact:

Keith Clancy, Commercial (334) 255-3126, keith.clancy@redstone.army.mil

Ground Station Playback Units, Monitors, and Cables

For those who have forgotten or lost the repair procedure for the ground station playback units, monitors, and cables, the SOFSA recommends that you send any ground playback units (i.e., Apache TEAC Recorder and Apache TEAC/SEKAI Monitor) to the following address in order to have them repaired under the FY01 project.

Raytheon Systems JOG
5749 Briar Hill Road
Building #221, Door #12
ATTN: C-E Repair
Lexington, KY 40516

Also, if your unit is converting to 8mm, please contact John Patton as your old Apache TEAC Recorder and Apache TEAC/SEKAI Monitor can be used at other locations.

Points of contact:

PM: John Patton, DSN 897-4244 or Commercial (256) 313-4244, john.patton@peoavn.redstone.army.mil.

SOFSA: Eric Gashel, DSN 745-3211 or Commercial (859) 293-3211, eric_gashel@sofsa.org.

Scratched Sensors Surfaces on CCD TV Sensors

In October 2000, the Fresno Lockheed Martin Special Repair Activity received 4 Charged Coupled Device (CCD) TV Sensors with badly scratched sensor surfaces (13076751). This part is Depot remove, replace, and repair only. The part does not have a National Stock Number (NSN).
The scratches have made the parts unusable because the scratches cause unacceptable blemishes in the video display. Request all users use extra care when removing any of the CCD cameras, especially the TVs on the Dayside Assembly.

There are warnings in the TM 1-1270-476-20: “Do not touch or bump optics,” “Contact with the optical surfaces will cause damage and an unwanted cleaning task,” and “Cleaning too often will wear away coating on optical surfaces.”

These warnings are to be followed, as the equipment is too expensive for the units too replace because of careless accidents.

Point of Contact:

Steve Ross, AMSAM-MMC-AV-AC, DSN 897-1413 or Commercial (256) 313-1413, steven.ross@redstone.army.mil.

Breakout Boxes

Maintaining the AH-64 Apache requires quite a bit of support equipment. The Army Aviation Transformation that is in-progress will create additional AH-64 units in the U.S. Army National Guard (ARNG). The Longbow Apache fielding will free some AH-64A unique support equipment as more units transition to the Longbow. However, the supply system will probably not capture this equipment. Only the current users can assist the Project Manager's Office (PMO).

Early in the AH-64A Program, the Apache PMO realized that additional troubleshooting aids would help the Apache maintainers isolate failed components/systems. The PMO contracted Serv-Aire, Inc., now Raytheon E-Systems, in Lexington, KY to build four specialized breakout boxes. Since the PMO wanted to get these pieces of equipment to the user in a timely manner, the items were pushed to AH-64A AVUMs and AVIMs prior to the completion of the provisioning process. As so often happens, after the equipment was fielded, new priorities popped up and the provisioning process never was completed, so NSNs were never assigned.

The Support Equipment and TMDE section of the Longbow Material Fielding Plan (MFP) identifies the four breakout boxes. They are:

Armament Breakout Box, PN: LEX-D-0040-001
Electrical Utility Breakout Box, PN: LEX-D-0121-001
Electrical Flight Control Breakout Box, PN: LEX-D-0161-001
Electrical Connector Breakout Box, PN: LEX-D-0221-001.

The Longbow MFP states that the breakout boxes are used only on the AH-64A and not needed by either the AVUM or AVIM once the units have transitioned to the AH-64D. The MFP recommends that if the equipment cannot be cross-leveled to other AH-64A units, they should be reported as excess and turned-in to supply. Also, because the NSNs were never assigned, the breakout boxes and some other support items will go to the Disposal Reutilization Marketing Office (DRMO) if they are turned-in to the normal supply system.

Some of the aspects of this section of the MFP are in error. The Armament Breakout Box (LEX-D-0040-001) can be used on the AH-64D and should be retained to support your AH-64Ds. The PMO is in the process of correcting the errors in the MFP.

Also as part of the Army Aviation Transformation, the U.S. Army National Guard (ARNG) will receive AH-64As to replace some of the retiring AH-1s. This will increase the number of Apache units and, therefore, Apache support equipment requirements. In order to reduce the transformation cost, the Apache PMO is attempting to locate excess support equipment for the AH-64As. One source for this equipment is the Apache Longbow fielding. As units transition to the Longbow, the Electrical Utility, Electrical Flight Control and Electrical Connector Breakout Boxes can be used to support the ARNG.

Another source is excess equipment resulting from the reduction in the number of Apache battalions. Since much of the support equipment is special tooling, accountability for this equipment was lost when a battalion stood down.

The Apache PMO enlists your help. First, please do not turn-in the excess breakout boxes to the supply system. They do not have NSNs assigned and will probably go to DRMO. Prior to turning-in any other Apache equipment, please check the Acquisition Advice Code (AAC) to make sure that the item is not in the process of being classified as obsolete. If the item is no longer listed in FEDLOG, it is already obsolete. These items will wind up in DRMO if they are turned-in to the supply system. Also, if the stock status of the item is in an overage condition, the item will go to DRMO. The only way to be sure that the equipment is not routed to DRMO is to turn it in off-line. Remember that every dollar that can be saved by not purchasing Apache support equipment for the Transformation could be used for Apache improvements.

Point of Contact:

Lloyd Hopkins, DSN 897-4072 or Commercial (256) 313-4072, lloyd.hopkins@peoavn.redstone.army.mil for disposition/shipping instructions

TEAC V-1000

CECOM has fielded "VIDEO RECORDER HEAD CLEANING PROCEDURES FOR TEAC V-1000 AB-F" under TB 1-1520-238-30, 1 Sep 1992. The procedure provides in-depth disassembly and wet cleaning instructions. The frequency requirement is 200-250 flight hours or approximately when aircraft enters phase maintenance. This is accomplished at the AVIM level. This procedure currently exits in the Longbow IETM on an as needed basis. The TB has been published in the *Apache Newsletter* and PM magazine.

This TB can be expanded to include TEAC 8MM recorders when fielded. The procedure for cleaning is similar with the only difference of access to the video heads.

Point of Contact:

Mike Heussner, CECOM, AMSEL-LC-CCS-N-AA, DSN 992-1138, Commercial (732) 532-1138, heussner@mail1.monmouth.army.mil.

Launcher Electronic Assembly (LEA), Longbow Hellfire Launcher

The Longbow LEA requires special handling for shipping. According to AMCOM Special Packaging Instruction (SPI) Number AL13937447, prior to shipping the maintainer must verify four screws (screw size: 10-32 X 1/2 with flat washer) have been installed at the rear under side of the LEA. This will prevent the internal power supply module from shifting during shipment and causing damage. Maintainers installing LEAs into the Longbow Launcher must also verify the same four screws are removed prior to installation. These procedures will be incorporated into the next Longbow IETM update.

Point of Contact:

Wilson Ho, PM-ARM POC (SETA contractor), DSN 788-0286, Commercial (256) 842-0286, wilson.ho@msl.redstone.army.mil

Hellfire Missiles

The Hellfire missile restriction for (combat use only) remains in effect. The restriction included those AGM-114C, AGM-114F, AGM-114K, and AGM-114L missiles equipped with the Alliant Techsystems (Hercules) rocket motor. Missiles equipped with the older Thiokol rocket motor, which are approximately 45% of the total available laser missiles are not affected by this restriction. After careful review of the historical missile firing data, the Aviation Rockets and Missiles (ARM) Project Office is very confident that sufficient Hellfire Missiles with Thiokol rocket motors will be available to continue supporting the Live Fire Training by the US Army Aviation units for the next several years. A get-well plan has been approved to retrofit the AGM-114K (Hellfire II) and the AGM-114L (Longbow) missiles starting FY03.

Point of Contact:

Andy Perez, PM-ARM, DSN 746-7243 or Commercial 876-7243, andy.perez@msl.redstone.army.mil.

New Hellfire Test Equipment Coming This Fall

Beginning in FY02 the Aviation Rockets and Missiles (ARM) Project Office will commence fielding the AN/AWM-101A Test Set Guided Missile System (TSGMS) to A Model Apache units. The AN/AWM-101A will provide on-

aircraft checkout of the HELLFIRE Modular Missile System (HMMS) and will replace the current AN/TSM-205 TSGMS. The AN/AWM-101A is used with the AN/PSM-95 Soldiers Portable On-System Repair Tool (SPORT) which will also be issued concurrent with the test set fielding. Three test sets and will be issued per AVUM and one per AVIM. One SPORT will be issued for each test set. The ARM Project Office will provide NET on the test set and SPORT prior to equipment hand-off.

The AN/AWM-101A is currently used on the AH-64D and is issued to gaining units while receiving collective training at Fort Hood, Texas. Since the test set is common to both AH-64A an AH-64D aircraft, A-Model units that will have been issued the AN/AWM-101A prior to conversion to Longbow will retain their test sets for use in supporting the AH-64D.

FY02 will also see the introduction of the Launcher Test Station (LTS), which will be used to provide off-aircraft testing of the M272, M299 HELLFIRE launchers, and M36 Training Missile. The LTS will be issued one per AVUM and one per AVIM and must be used with an AN/AWM-101A and SPORT. Additional information on the LTS will be provided in future issues of this newsletter.

Point of Contact:

Gregory D. Bliss, SFAE-MSL-ARM-MS, DSN 788-0923, Commercial (256) 842-0923

AMCOM Corrosion Prevention and Control Center of Excellence (CPCCoE)

Corrosion of Army materiel is a serious problem impacting every facet of military readiness. Materials, energy, labor and technical expertise that would otherwise be available for alternative uses must be allocated for corrosion prevention and control.

To combat and mitigate the growing corrosion problem, the Commander of the Army Materiel Command (AMC) has developed an aggressive, coordinated and comprehensive CPC Program plan. The U.S. Army Aviation and Missile Command (AMCOM) has taken the initiative to address corrosion concerns through the establishment of the CPC Center of Excellence.

The primary objectives of the COE are to decrease life-cycle costs, increase Army readiness by reducing equipment downtime and reduce the maintenance burden being placed on diminishing active and reserve work force resources. Additionally, the COE gathers and process corrosion data, and implement programs aimed at providing technology base solutions. We evaluate and prioritize recommended research programs for new materials and processes. Finally, the COE provides assistance to Project Manager Office (PMO) and users through awareness initiatives, training and inspections designed to enhance knowledge of corrosion causes, prevention and remediation.

The Corrosion Assistance Teams have conducted training to units in Hawaii, Korea,
Germany, Ft. Campbell, KY, and Ft. Bragg, NC. One corrosion issue facing the units is the availability of Corrosion Preventive Compounds (CPC).

The following paragraphs identify recurring AH-64 series aircraft corrosion problems, noted during the corrosion training courses at various sites. Recommended solutions have been provided to slow the effects of corrosion in the future. This is one of the first steps in combating corrosion, cost and equipment downtime.

Recurring problems with the rocket pod include the front face and rear areas. These areas are subject to extreme heat and residue from the rocket propellants. This combination results in the corrosion preventive compound being burned off and propellant residue being burned into the rocket pod face and tubes. The rocket propellant is acidic and can be neutralized with a mild base, like baking soda. Recommendations: Make a solution of baking soda dissolved in water and apply large amounts on the affected area. Let solution sit for a few minutes and rinse with large amounts of water. Apply MIL-C-85054 to the faceplate and MIL-C-81309, Type 111 to the rear tube area. Reapply frequently and daily.

AH-64 Rocket Pod Launcher

The threaded portion of the upper stabilator actuator rod ends are corroding to the extent of pitting. Water intrudes during rain and washes. **Recommendations**: Completely dry the aircraft and reapply corrosion preventive compound.

Problem	**Recommendations**
	(WARNING) **DO NOT MIX MILDEW REMOVER P-D-410 WITH FUNGUS REMOVER O-S-642.**
Ammo Bay Area	Use Fungicidal Removal Detergent P-D-410, NSN 7930-00-880-4454, before wash. If no effect is present, completely remove and wash off P-D-410 and use O-S-642 Trisodium Phosphate Mildew Remover. **(WARNING)** **DO NOT MIX MILDEW REMOVER P-D-410 WITH FUNGUS REMOVER O-S-642.**
Tail boom has fungus.	Fungicidal Removal Detergent P-D-410, NSN 7930-00-880-4454, if fungus is present. Completely remove and wash. Apply O-S-642 Trisodium Phosphate.

Tail-Boom fungus

AH64 Ammo Can area fuselage walls – Fungus/Mildew

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For technical information, call the Corrosion Hotline at DSN 746-3175 or Commercial (256) 876-3175 or contact Sid Harrison (256) 955-9939.

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Send Us Your Article

If you have an article to submit, please e-mail or fax it to Steve Hayes as an MS Word attachment. We request that you not type the articles in 'all caps', that you explain all acronyms used, and that you provide at least one point of contact (POC). Please provide a name, telephone number(s), and an e-mail address for each POC.

Articles for the next issue of the Apache Newsletter must be submitted no later than 15 August 2001.

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